No. 12

On the use of Calomel in the fevers of children.

By Jno. Carothers

of Pennsylvania

passed. March 12th 1818

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The feeble births acquired diseases chase
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It has been observed by Physicians and others, that one † half of the children born in London die before they reach the age of two years, and it is probable that the mortality is nearly as great in the other large cities of Europe; in the cities of the United States it is certainly not near so great, and that for the following reasons.

1st Weak and debilitated women may bring forth strong and healthy children, but coteris paribus sickly women bear sickly children, and vice versa; and again, the easier the labour is, the better is the prospect of health for the child; now it is a fact disputed by none, that the women of this country are much more healthy than those of Europe, and it is equally beyond controversy that difficult labours are here comparatively very rare.

2nd In the higher classes of society in this country children are much more frequently nursed by their mothers than in Europe.

† Dr Clarke says one fourth.

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3rd The lower classes of society are here much better provided for, and enjoy a degree of comfort and happiness totally unknown by those of the same rank in Europe.

4th We have not those extremes of wealth and poverty, so common in old countries, which are both such fruitful sources of disease. Many other general causes of the greater mortality of children in the cities of Europe might be adduced, the above will probably be accounted sufficient at present. Nevertheless even in this country, many more children are swept off by disease in proportion to their numbers than adults; the diseases of children are certainly much more violent than those of adults; but their powers of nature to resist disease are proportionably stronger. The fatality of the maladies of children may then be sought for in other causes besides their violence. By whom are their diseases treated? very frequently indeed not by Physicians, but by Quacks, Midwives, and nurses;

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what are the remedies used? herb teas, cataplasms of bitter herbs, pads of wolfes hair, of black lambs wool and hundreds of other articles equally efficacious. How it may be in the cities of the United States I know not, but in the country a Physician is rarely called in to see a child, until it has been previously treated by the prescriptions of all the old women in the neighbourhood. This is an evil not to be remedied by any law, but only by the general diffusion of information among all classes of the community.

By the almost universal consent of practitioners and particularly in this country no one medicine is so much employed in the treatment of the diseases of children as Calomel, specified by the Professor of Chemistry, in the Medical department of this University, to be the muriate of the protoxide of mercury. It may also be said without dread of contradiction, that no one medicine is employed with so much advantage in these cases;

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its use in some of the fevers of children in conjoint operation with other remedies shall be the subject of the present essay.

Dr Chapman observes in his Therapeutics, Vol 1st page 200 article, calomel, "Whenever we wish "a strong and permanent impression ~~to~~ be made "on the alimentary canal and through it on the "neighbouring viscera or on the system generally "calomel by universal consent is consecrated to "these purposes". In most of the diseases of children a permanent impression on the alimentary canal and through it on the system generally is precisely what is wanted, and this impression calomel alone will certainly and powerfully produce. Its being devoid of taste and smell, is also a matter of no small consequence in these cases.

The fevers of children are generally speaking produced by the same causes as those of adults. Among these causes disorder of the digestive or-

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gans ranks first. The digestive organs of children are disordered by many causes.

1st The application of cold to the surface of the body on to the feet, hence changing flannel shirts and woollen stockings in the spring of the year, for linen shirts and cotton stockings is a fruitful source of the fevers of children; this is also very productive of croup, catarh, diarrhoa &c.

2nd The bowels of children are disordered by improper articles of diet, as unripe fruits, cabbage, tarts shortened cakes, cucumbers, and many other things which they have access to every day.

3rd Close confinement particularly in impure air; children confined in manufactories, which is frequently the case in England, are weak, debilitated, and unhealthy.

4th Miasmata; children living near, mill dams, marshes and water courses generally, are very subject during the summer, to bowel complaints.

5th Dentition, many of the bowel complaints of

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children, it is well known are produced by this cause.

When the above or other causes produce a derangement in the digestive organs of children and a diarrhoa does not take place, a fever is frequently the consequence. In debilitated children a diarrhoa is most frequently the result, in the phlethonic an inflammatory fever. This fever was preceded by a loss of appetite, a disposition to sit still and not to run about and play as usual; the pulse was somewhat excited, the eyes were heavy; in some cases the symptoms of a cold in the head were present viz, the nostrils gave the sensation of being stopped up, and a thin mucus distilled away from them; the face was flushed, the tongue white and furred, but in some cases of a yellow colour, and the bowels were costive.

After these symptoms had continued from 24 to 48 hours, a fever was produced, the pulse then becomes more frequent and stronger, the face was flushed, the eyes

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ed and heavy, the skin and head very hot, in some cases delirium was present, vomiting of bilious matter sometimes took place, in some cases a slight chill preceded, but in a majority it was not to be observed; the fever was a remittent having its exacerbations about 5 or 6 O clock P M and its remissions about the same hour A M. The treatment found successful in these cases of fever was exceedingly simple. If there was sickness at stomach or vomiting, an emetic of tart. ant. et pot. dissolved in water was given; if delirium existed, or if the face was much flushed the head hot and the pulse strong, from a child four or five years old from ℥ V to VIII of blood were drawn. At night gr V or VI of calomel were given and next morning a table spoonful of castor oil, or ℥j of senna in infusion in two doses; that night the calomel was repeated and the purging medicine the next morning. This generally stopped the fever at once: if it did not the bleeding was repeated if admissible, and the

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calomel and oil or senna were given twice more, as above; the fever then ceased as far as fell under my notice. In two cases it was thought necessary to divide the gums with a lancet; the irritation produced by the cutting of the teeth no doubt aided much in these cases in the production of the fever, certainly dividing the gums assisted much in the cure. The calomel by itself generally did not produce any evacuation, but by the assistance of the other medicine a pretty brisk purging was produced. The stools were abundant and of a dark brown or † green colour, in two cases a few Lumbrici were evacuated. In these cases it is probable the calomel did not act alone by its evacuating power; it is more consistent with the present improved state of medical science to suppose that it acted by making new impressions on the alimentary canal, (and by sympathy on the system generally;) and of necessity destroying those already existing there, which had produced and continued

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the fever. From the appearance of the stools, and from the symptoms generally, we may rationally presume, that the hepatic system was also affected, this affection the calomel was likewise well calculated to relieve. The above treatment was successful in all the cases of the acute fever which fell under my notice; the whole number of cases so treated did not amount to more than twelve; no doubt in a more extended experience, many other resources of the healing art must be called into aid. If calomel affords so much assistance as above stated in the treatment of the acute fevers of children, it will not be found less active in the treatment of those of a chronic nature; of which kind the two following cases were.

Case 1st A negro girl aged eight years was affected in the following way. She had a slow fever with an exacerbation in the afternoon, about four O Clock; there was a remission about midnight with copious sweating. She had a cough with considerable

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expectoration, which was most abundant in the morning. Her pulse was somewhat tense, it beat about 110 strokes in the morning and from 120 to 125 in the evening. Her skin was hot, she sometimes complained of head-ache; her tongue was white and much furred particularly in the morning; her bowels were generally costive, nevertheless she had a slight diarrhoea two or three times; her belly was hard and tumid and she sometimes complained of pain in it; her appetite was bad, she sometimes had a disposition to eat dirt. She was much emaciated, her cheeks were hollow and her features sharp. She had been sick between two and three months before she took any medicine.

The following treatment was pursued. (1st day) gr. vi of calomel were given at night, and a table spoonful of castor oil next morning; the evacuations produced were small in quantity; they consisted of a dark matter somewhat like pitch mixed with a quantity of mucus. (2nd day) gr. viij of calomel were

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given at night and gr x of jalap next morning; this produced pretty copious evacuations of the same kind of matter above described. (4th day) gr iv of calomel were given at night and a table spoonful of castor oil next morning; copious evacuations of a black fœtid matter were again produced. gr xii of rhubarb were then given every other day for two weeks. The health of the patient was now much improved, her appetite had returned, the hardness and tumefaction of her abdomen were removed, the fever and cough had nearly ceased, but the stools were yet of a brown colour and of a smell not natural. (19th day) gr vi of calomel were given at night and gr xii of rhubarb next morning; (21st day) the calomel and rhubarb were given as before; gr xii of rhubarb were then given every other day for one week when all the symptoms of disease were removed, and the patient has remained in perfect health even since. Nourishing diet was directed, and flannel was worn next the skin.

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Case 2nd A black girl aged six and an half years, was affected with the following symptoms; She had a slow remittent fever, the exacerbations about four or five O clock in the afternoon and the remissions about twelve or one O clock at night with sweating. Her pulse in the morning was about 110 or 115, and in the evening about 125 or 130 strokes in the minute, and with some degree of tension, particularly during the exacerbations; her abdomen was tumid and hard, and she complained of pain when it was pressed; her bowels were costive, what faeces were discharged were unnatural in their appearance, being of a very dark colour and of a peculiar smell, much like those described in the former case. She sometimes complained of head ache, the pupils of her eyes were much dilated, her appetite was very bad; she remained in one position during the whole day, and never spoke except when ~~spoken~~ asked a question, her tongue was of a dark brown colour and rough, and her breath fœtid, her ap-

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pearance and manners resembled very much those of an idiot; she had been unwell three months before prescribed for.

The following treatment was pursued. (1st day) gr. vi of calomel were given at night and a table spoonful of castor oil next morning; the evacuations were of a dark colour and small in quantity. (2nd day) gr. iv of calomel were given at night and gr. x of rhubarb next morning, the evacuations were very abundant, of a dark colour and a peculiar fœtid smell. (4th day) gr. vi of calomel were given at night and gr. x of rhubarb next morning; the evacuations were abundant and of the appearance above mentioned. The medicines were intermitted four days, partly on account of the weakness of the patient, and partly owing to the commands of her mistress, a small quantity of wine whey and strong beef soup were given during this time. (11th day) gr. vi of calomel were given at night and a table spoonful of castor oil next morning; the evacuations were the same as above described. gr. xii of rhubarb

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were now given every other day for two weeks; her stools had now become of the natural appearance, her abdomen had subsided, her appetite was good, and her fever had completely ceased; the medicines were discontinued supposing her to be perfectly well. In three weeks all her complaints had returned, and that without any assignable cause, and she had precisely the same symptoms and appearance which she had before any medicines were administered. Under these circumstances the following treatment was pursued. (1st day) gr vi of calomel were given at night and a table spoonful of castor oil next morning; the evacuations were pretty abundant and precisely of the appearance above described. (2nd day) gr vi of calomel were given at night gr x of rhubarb next morning, (3rd day) gr vi of calomel were given at night and gr x of rhubarb next morning; the evacuations were as above; gr x of rhubarb were then given every other day for two weeks. (19th day) gr vi of calomel were given at night and a table spoonful of castor oil next morning.

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(20th day) gr VI of calomel were given at night and gr X of rhubarb next morning, the whole quantity of feculent matter brought away during this time was immense; the stools had now became natural and all the symptoms had subsided. gr X of rhubarb were given every other day for one week. (29th day) gr VI of calomel were given at night and gr X of rhubarb next morning. The appetite of the patient had now become good, and her stools perfectly natural, and what was of more consequence, she became very playful, and her countenance had lost that idiotic appearance and became perfectly intelligent. From this time she has remained in perfect health. During the time of cure her diet was nourishing consisting of beef, chicken, and mutton broth, rice, potatoes &c; flannel was worn next the skin, she was also directed to take exercise, in the open air, it being summer.

In these two cases the mesenteric glands were probably diseased, the biliary organs no doubt were,

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this the appearance of the stools would testify; these derangements as well as the fever cough &c were probably produced, or at least continued by, the disorder of the alimentary canal; as soon as the health of this latter part was restored, all symptoms of disease elsewhere ceased.
In these cases the stomach and bowels had been disordered for some time, hence it was necessary to repeat the remedies often, both to evacuate the bowels completely as well as to alter the then existing state of those parts. The calomel in all the above cases was given by itself, that it might remain some time in the bowels and of course be better capable of making more permanent impressions.
In cases of children a salivation is no doubt a serious evil, and always much to be dreaded, in the above cases not the smallest symptom of a sore mouth existed, and in cases of croup and hydrocephalus much larger quantities of mercury have been used, without apprehending any danger from that source.

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The above essay is necessarily very short and imperfect, as it contains only the experience of a student of medicine, in the shop of a country practitioner during a few months.